

Begin

Begin

Reel #475
Rubtsov, V.M.

RUBTSOV, V.M.

Oscillations of a plane hexagonal lattice with allowance for non-point interaction. Izv. vys. ucheb. zav.; fiz. no.6:37-40 '63.(MIRA 17:2)

1. Novokuznetskiy gosudarstvennyy pedagogicheskiy institut.

ACCESSION NR: APL025085

S/0139/63/000/006/0037/0040

AUTHOR: Rubtsov, V. M.

TITLE: Oscillations of a plane hexagonal lattice with consideration of non-point interaction. 2. Planar oscillations

SOURCE: IVUZ. Fizika, no. 6, 1963, 37-40, and insert facing page 37

TOPIC TAGS: plane hexagonal lattice, non-point interaction, planar oscillation, Blekman method, heat capacity, vertical oscillation, secular equation, dynamic matrix

ABSTRACT: Using Blekman's method, the author finds functions of the density of frequencies of planar oscillations of a plane hexagonal lattice. He computes heat capacity of the lattice for planar and vertical oscillations. All computations were done on the EVM of the Institut matematiki SO AN SSSR (Institute of Mathematics SO AN SSSR). In a table, the author shows certain computed and experimental values of the heat capacity. Agreement can be considered good in the interval 100-600°. At lower temperatures the theoretical heat capacity considerably exceeds the experimental. Orig. art. has: 1 table, 2 figures, and 4 formulas.

Card 1/2

ACCESSION NR: AP4025085

ASSOCIATION: Novokuznetskiy gosudarstvennyy pedagogicheskiy institut (New
Kuznetsk State Pedagogical Institute)

SUBMITTED: 07Jul62

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: PH

NO REF SOV: 004

OTHER: 003

Card 2/2

RUBTSOV, V.M.

Density function of oscillation frequencies and the heat capacity
of the graphite lattice. Izv. vys. ucheb. zav.; fiz. no.5:147-150
'63. (MLRA 16:12)

1. Novokuznetskiy gosudarstvennyy pedagogicheskiy institut.

RUBTSOV, V. M.

Oscillations of a plane hexagonal lattice with allowance for non-point interaction. Part 1. Vertical oscillations. Izv. vys. uch. zav.; fiz. 3:24-32 '62. (MIRA 15:10)

1. Sibirskiy fiziko-tekhnicheskoy institut pri Tomskom gosudarstvennom universitete imeni V. V. Kuybysheva.

(Oscillations) (Crystal lattices)

ZHDANOV, V.A.; RUBTSOV, V.M.

Dynamics of crystal lattices with regard to nonpoint interaction
of atoms. Izv.vys.ucheb.zav.;fiz. no.1:3-9 '62. (MIRA 15:6)

1. Sibirskiy fiziko-tekhnicheskii institut pri Tomskom
gosudarstvennom universitete imeni V.V. Kuybysheva.
(Crystal lattices)
(Dynamics of a particle)

RUBTSOV, V.M.

Dynamics of a simple cubic lattice with regard to nonpoint
interaction of atoms. Izv.vys.ucheb.zav.;fiz. no.1:72-79 '62.
(MIRA 15:6)

1. Sibirskiy fiziko-tekhnicheskii institut pri Tomskom
gosudarstvennom universitete imeni Kuybysheva.
(Molecular dynamics) (Lattice theory)

ZHDANOV, V.A.; RUBTSOV, V.M.

Remarks on central forces in crystals. Izv.vys.ucheb.zav.; fiz.
no.1:165-166 '61. (MIRA 14:7)

1. Sibirskiy fiziko-tekhnicheskii institut pri Tomskom gosudarstvennom
universitete imeni V.V.Kuybysheva.
(Lattice theory)

ZHDANOV, V.A.; RUBTSOV, V.M.

Theory of the moduli of elasticity of crystals. Izv.vys.ucheb.zav.;
fiz. no.1:168-169 '61. (MIRA 14:7)

1. Sibirskiy fiziko-tekhnicheskii institut pri Tomskom gosudarstvennom
universitete imeni V.V.Kuybysheva.
(Elasticity) (Crystal lattices)

RUSTACEV, Vitaliy Nikolayevich

[Close distances; essays about Penza Province] blizkie
dali; ocherki o Penzenskoi oblasti. Penza, Penzenskoe
knizhnoe izd-vo, 1963. 106 p. (MIRA 17:10)

RUBTSOV, V.P.; IVANOV, V.I.

Universal finishing press for bottom gatings. Ogneupory 18
no.6:276-280 Je '53. (MIRA 11:10)
(Power presses) (Foundry machinery and supplies)

IYOBOTENKO, B.A., inzh.; RUBTSOV, V.P., inzh.

Electromagnetic design of reactive reductor-type stepping motors.
Trudy MEI no.38:22 1-266 '62. (MIRA 17:2)

RUBTSOV, V.P.

Seedlings

Breeding of fruit seedlings, Est. v shkole no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, July 1952 ~~1957~~, Uncl.

RUBTSOV, V.V., kand. sel'skokhozyaystvennykh nauk

Reaction of active apple tree roots to soil cultivation practices
in the orchard. Dokl. Akad. sel'khoz. 24 no.5:30-33 '59.

(MIRA 12:7)

1.Orlovskaya plodovo-yagodnaya stantsiya. Predstavlena otdeleniyem
zemledeliya Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. Lenina.
(Roots (Botany)) (Apple)

RUBTSOV, V.V., inzhener.

Remote measurement and summation of the load of an industrial establishment. Prom.energ. 11 no.2:7-11 F '56. (MLRA 9:6)
(Wattmeter)

RUBTSOV, V.V., inzh.; ZARUDI, M.Ye., inzh.

Automatic switching-in of standby power (AVR) in circuits with
synchronous motors. Prom. energ. 12 no.12:6-8 D '57. (MIRA 10:12)
(Electric power distribution)

RUBTSOV, V V.

8(5)

AUTHORS:

Sirotin, Artemiy Afanas'yevich, Candidate of Technical Sciences, Docent at Kafedra elektrooborudovaniya prompredpriyatiy Moskovskogo energeticheskogo instituta (Chair of Electrical Equipment of Industrial Enterprises), Sokolov, Nikolay Georgiyevich, Candidate of Technical Sciences, Docent at the Chair of Electrical Equipment of Industrial Enterprises, Moscow Power Engineering Institute, Rubtsov, Vladimir Vasil'yevich, Engineer at the 1 Podshipnikovyy zavod g. Moskvyy (1st Bearing Factory of the City of Moscow)

TITLE:

Electric Lag Drive of the Cross Feed (Transverse Feed) of Sphero-Grinders (Sledyashchiy elektroprivod poperechnoy podachi sferoshlifoval'nykh stankov)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Elektromekhanika i avtomatika, 1958, Nr 2, pp 196 - 204 (USSR)

ABSTRACT:

The system of the cross feed electric drive should secure the removal of the main part of the supply at the maximum admissible actual feed. The slight rest of the supply has to be removed from a feed which secures the necessary quality of the product surface at minimum time. These requirements are met by the lag drive of the cross-feed which was developed for sphero-

Card 1/3

Electric Lag Drive of the Cross Feed (Transverse Feed)
of Sphero-Grinders

SOV/161-58-2-24/30

grinders by the co-workers of the Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute) in cooperation with the Pervyy gosudarstvennyy podshipnikovyy zavod 1GP3 (First State Warehouse Factory 1GP3). The mode of effect of the lag system of cross feed is described and the electric wiring diagram of sphero-grinders with the lag drive of cross feed is shown. This system was fitted to the sphero-grinders of the Leningradskiy zavod imeni Il'icha (Leningrad Works imeni Il'ich) and to the machines of the Van-Norman works. The experimental investigation of the electric lag drive are described. The positive properties of the electric lag drive are as follows:

- 1) A check at the workshop has shown that this system meets the series production requirements of ball-bearing factories.
- 2) When correctly adjusted, the lag system prevents scrap of rings owing to burning.
- 3) The lag feed increases by efficiency a correct adjustment as compared to the existing mechanical facilities.
- 4) The surface quality at a lag feed is between the 7th and 8th class.
- 5) The lag feed permits an uncomplicated adjustment of one mode of operation to another.
- 6) The

Card 2/3

Electric Lag Drive of the Cross Feed (Transverse Feed) of Sphero-Grinders SOV/161-58-2-24/30

grinder is protected against excessive wear. 7) The electric diagram is not more complicated. 8) The diagram is more reliable than in other cases, due to the use of semiconductor valves instead of thermionic valves. 9) It is an automatic feed. 10) The specific energy consumption is lower by 16.1% as compared to mechanical feed. 11) The kinematic diagram of the cross feed assembly is by far less complicated. There are 8 figures.

ASSOCIATION: Kafedra elektrooborudovaniya prompredpriyatiy Moskovskogo energeticheskogo instituta (Chair of Electrical Equipment of Industrial Enterprises, Moscow Power Engineering Institute)

SUBMITTED: February 10, 1958

Card 3/3

SIROTIN, Artemiy Afanas'yevich, dots, kand. tekhn. nauk; SOKOLOV, Nikolay Georgiyevich, dots., kand. tekhn. nauk; RUETSOV, Vladimir Vasil'yevich, inzh.

Follower electric drive for the lateral feed of sphere-polishing machines. Nauch. dokl. vys. shkoly; elektromekh. i avtom no.2:196-204 '58. (MIRA 12:1)

1.Rekomendovana dafedroy elektrooborudovaniya prompredpriyatiy Moskovskogo energeticheskogo instituta. 2.Podshipnikovyy zavod g. Moskvyy. (for Rubtsov).

(Servomechanisms)

USSR/Cultivated Plants - Fruits. Berries.

M

Abs Jour : Ref Zhur Biol., No 12, 1958, 53770

Author : Rubtsov, V.V.

Inst : Fruit and Vegetable Institute in. I.V. Michurin

Title : Restoration of Soil Fertility in Fruit Bearing Orchard

Orig Pub : Tr. Plodoovoshchn. in-ta in. I.V. Michurina, 1956, 9,
15-37

Abstract : The author's studies conducted for 3 years in the orchard of the Michurin Scientific Research Institute, and the observations of production experiments of the front rank establishments of Povolzh'ye, the Central Region and the Belorussian SSR set the course for reducing the negative effect of perennial grasses sown as intercrops in the rows between the fruit trees. The best method was by turfing alternate spaces between the rows. In the case

Card 1/2

- 107 -

RUBTSOV, V.V., inzhener.; KIREYEV, M.I., inzhzner.

"Operating the power plants of industrial enterprises." Prom. energ. 12
no. 4: 36-39 Ap '57. (MLRA 10:5)

1. 1-y Gosudarstvennyy podshipnikovyy zavod imeni L. M. Kaganovicha
(for Rubtsov).

(Electric power) (Konstantinov, B.A.) (Luk'ianov, T.P.)

"The Effect of Grass Mixtures (and Methods of Sowing Them in the Orchard) on the Growth and Fruit Bearing of Apple Trees." Cand Agr Sci, Fruit and Vegetable Inst imeni I. V. Michurin, Min Higher Education USSR, Michurinsk, 1955. (KL, No 15, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

AUTOMATIC CONTROL AND PROTECTION

"Protective Circuits Employing AC Operating Current" by V. Ya. Rubtsov. Energeticheskiy Byulleten', No. 6, June 1957, Pages 7 -- 9.

Such equipment usually employs saturating current transformers, the operation of which is rather difficult to control. The author proposes a scheme reducing the load on the saturating transformers, thereby increasing the reliability of their operation.

Card 1/1

- 3 -

RUBTSOV, V.Ya.

Relay circuits on a.c. operating current.
Je '57.

Energ.biul. no.6:7-9

(MIRA 10:7)

(Electric relays)

LUKOVNIKOV, A.V., inzhener; RUBTSOV, V.Ya., inzhener

Using automatic protective equipment for rural electric systems.
Elek.sta.26 no.11:40-42 N'55. (MLRA 9:1)
(Electric circuit breakers)

AID P - 4024

Subject : USSR/Power
Card 1/1 Pub. 26 - 13/31
Author : Lukovnikov, A. V. and V. Ya. Rubtsov, Engs.
Title : Using automatic switches to protect rural power plants.
Periodical : Elek. sta., 11, 40-42, N 1955
Abstract : Types of automatic switches used at rural power plants
are discussed and their data given. Two diagrams.
Institution : None
Submitted : No date

... .. BARADZEY, V. I. RUBTSOV, Yu. A. SMORODIN, M. V. SOLOVYEV

Absorption of High Energy Nucleons in the Atmosphere and Production of Mesons

report submitted for the 8th Intl. Conf. on Cosmic Rays (IUPAP), Jaipur, India,
2-14 Dec 1963

RUBTSOV, Yu.

First mining school in Cuba. Prof.-tekh.sbr. 21 no.3:31 M- '64.
(MIRA 17:4)

11.5000

81937
S/062/60/000/06/09/011
B020/B061

AUTHORS: Dubovitskiy, F. I., Rubtsov, Yu. I., Barzykin, V. V.,
Manelis, G. B.

TITLE: Kinetics of the Thermal Decomposition of Dinitroxydiethyl-
nitramine ¹

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1960, No. 6, pp. 1126-1128

TEXT: The kinetics of the thermal decomposition ²¹ of dinitroxydiethyl-
nitramine is investigated here by three different methods, the evolution
of gas, the change of weight, and the evolution of heat. When studying
the kinetics on the basis of the evolution of gas, the same method as
earlier (Ref. 5) was used. The curves of the rate of heat evolution are
graphically illustrated in Fig. 1, and the temperature dependence of the
reaction rate constants in Fig. 2. The values obtained for the reaction
heat of the thermal decomposition of dinitroxydiethylnitramine are
tabulated. As may be seen from the Table, the thermal effect of the ^X

Card 1/2

Kinetics of the Thermal Decomposition of
Dinitroxydiethylnitramine

81937
S/062/60/000/06/09/011
B020/B061

reaction rises slowly with increasing temperature, the temperature rise in the range 150 - 170° being about 6%. The decomposition takes place as a reaction of the first order. The rate constants were experimentally determined, and the activation energy and the factor of the exponential function were calculated. There are 2 figures, 1 table, and 6 references: 2 Soviet, 3 Canadian, and 1 British.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute
of Chemical Physics of the Academy of Sciences USSR)

SUBMITTED: October 6, 1959

Card 2/2

84850

11.8200

11.1260

S/062/60/000/010/003/018

B015/B064

AUTHORS: Dubovitskiy, F. I., Rubtsov, Yu. I., and Manelis, G. B.

TITLE: Kinetics of Heat Evolution in the Thermal Decomposition of
Tetryl

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1960, No. 10, pp. 1763-1766

TEXT: Since there are no experimental data available on the amount of heat resulting from thermal decomposition of explosives, as well as on the kinetics of heat evolution during the decomposition, the authors investigated the kinetics of heat evolution in the thermal decomposition of tetryl with a differential self-regulating calorimeter (Ref. 1). The determinations were made for the temperature range 130°-155°C, with the weighed portion being such as to permit the decomposition to be regarded as isothermal. As is shown by the curves (Fig. 1) representing the rate of heat evolution, the tetryl decomposition has a self-accelerating character. Table 1 gives the amounts of heat resulting from thermal

Card 1/2

84850

Kinetics of Heat Evolution in the Thermal
Decomposition of Tetryl

5/062/50/000/010/003/018
B015/B064

decomposition for the temperature range investigated; the mean value is 341 cal/g. The reaction kinetics of tetryl decomposition is described by an equation (2) of autocatalysis of the first order which takes account of the volume change occurring in the course of the reaction. The kinetic constants (Table 2) were determined from equation (2), and the values of the activation energies and the factors of the exponential functions from the temperature function of the rate constants. The kinetic constants obtained from heat evolution, on the one hand, and the weight loss, on the other, were found to be the same. There are 3 figures, 2 tables, and 4 references: 3 Soviet and 1 British.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

SUBMITTED: June 6, 1959

Card 2/2

S/195/62/003/001/001/010
EC71/E136

11.2715

AUTHORS: Manelis, G.B., Rubtsov, Yu. I., Smirnov, L.P., and
Dubovitskiy, F.I.

TITLE: Kinetics of thermal decomposition of pyroxilin

PERIODICAL: Kinetika i kataliz, v.3, no.1, 1962, 42-48

TEXT: As the literature data on thermal decomposition of nitrocellulose are contradictory, the authors investigated the kinetics of thermal decomposition of pyroxilin powder within a temperature range of 140-165 °C. The kinetics were studied by three different methods: by the evolution of heat in a double calorimeter (in vacuo and at atmospheric pressure); by changes in weight on an automatic thermal balance in the presence of air; and by gas evolution in a static vacuum apparatus with subsequent analysis of gaseous decomposition products. It was found that thermal decomposition of pyroxilin powder in air as well as in vacuo takes place to a certain depth of decomposition (depending on the temperature) with autocatalysis of the first order; subsequently the process continues as the first order reaction. The heat effect of thermal decomposition is

Card 1/3

Kinetics of thermal decomposition... S/195/62/005/001/001/010
E071/E136

independent of the temperature and is on average about 750 cal/g which amounts to more than 80% of the heat of combustion (about 900 cal/g). On decomposition in vacuo the heat effect decreases to 515 cal/g. In the autocatalysis equation

$$d\eta/dt = k_1(1 - \eta) + k_2 \cdot \eta(1 - \eta)$$

which describes well this stage of the reaction, k_1 and k_2 were calculated from experimental data. The temperature dependence of these constants (for heat evolution in air) was found to be:

$$k_1 = 10^{19} \cdot e^{-\frac{47000}{RT}} \text{ sec}^{-1},$$

$$k_2 = 10^{12} \cdot e^{-\frac{31000}{RT}} \text{ sec}^{-1}.$$

The main gaseous product in the initial stage of decomposition is NO; with increasing degree of decomposition the percentage of
Card 2/3

Kinetics of thermal decomposition... S/195/62/003/001/001/010
EO71/E136

CO₂ increases and that of NO decreases, indicating that the initially split NO₂ group reacts quickly with the condensed phase leading to the formation of nitrogen oxide, carboxyl and carbonyl groups. The process of decarboxylation proceeds with a lower velocity than the reaction of formation of NO and develops mainly at the end of decomposition when the destruction of the polymeric chain is well advanced. The catalytic influence of gaseous decomposition products is indicated by the fact that the velocity constant k_2 is lower on removal of the gaseous products than it is in their presence. However, the autocatalysis of thermal decomposition of pyroxilin was also observed on continuous removal of gaseous products, indicating that functional groups (carboxyl, carbonyl, etc.) of the polymeric molecules, formed in the course of the reaction, also have a catalytic influence. There are 6 figures and 3 tables.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR
(Institute of Chemical Physics, AS USSR)

SUBMITTED: April 3, 1961

Card 3/3

L 22341-66 EWT(m)/ETC(f)/EPF(n)-2/ENG(m)/ENP(j)/T/ENP(t)/ETC(m)-6 IJP(c)
ACC NR: AP6013905 DS/JD/WW/JWD/RM SOURCE CODE: UR/0076/66/040/004/0770/0774

AUTHOR: Manelis, G. B.; Rubtsov, Yu. I.

ORG: Institute of Chemical Physics, Academy of Sciences SSSR (Institut khimicheskoy fiziki Akademii nauk SSSR)

TITLE: The kinetics of thermal decomposition of ammonium perchlorate

SOURCE: Zhurnal fizicheskoy khimii, v. 40, no. 4, 1966, 770-774

TOPIC TAGS: ammonium perchlorate, solid propellant, combustion

ABSTRACT: The kinetics of thermal decomposition of ammonium perchlorate (AP) were studied in the range 196.5—280C. The kinetic constants and the heat of the reaction were determined. Examination of the kinetic curves obtained by gravimetric methods indicates that in the range 200—280C the reaction rate falls off sharply after 30—35% of the starting sample had decomposed; the reaction continues at a relatively low rate. It was also observed that above 236C, AP changes from an orthorhombic to a cubic crystalline modification. The transition is accompanied by a substantial decrease in the reaction rate, since in the cubic crystal lattice the decomposition develops more slowly. The heat of reaction was found to be 348±11 cal/g in glass vessels, and 334±12 cal/g in aluminum vessels. Mass-spectrometric analysis of the decomposition products showed that, in addition to nitrogen oxides, appreciable amounts of free nitrogen are present. Orig. art. has: 2 tables and 5 figures.

SUB CODE: 21/ SUBM DATE: 09Dec64/ ORIG REF: 004/ OTH REF: 010/ ATD PRESS: 1742 [VS]
Card 1/14 UDC: 541.124/.128

GATYUK, O.S.; FURTEKOV, Yu.I.; MALLINOWSKAYA, O.F.; MANELIS, G.B.

Microcalorimeter for studying the kinetics of chemical
reactions. Zhur. fiz. khim. 39 no.9:2319-2322 S '65.
(MIRA 18:10)

L. Institut khimicheskoy fiziki AN SSSR.

ROBINOV, Y.I.; VASHIL, A.M. (Moskva)

Critical phenomena in liquid-phase autocatalytic reactions.
Zhur. fiz. khim. 38 no.10:2392-2396, 1964. (MIRA 18:2)

1. Institut khimicheskoy fiziki AN SSSR.

RUBTSOVA, A.

Issledovanie modeli samoleta na shtopor. Moskva, 1935. 21 p., diagrs. (TSAGI. Trudy, no. 173)

Summary in English.

Title tr.: Spinning tests on a model airplane.

QA911.M65 no. 173

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

RUBTSOVA, A.D.

[Physical culture therapy in posture disorders and scolioses in school-children; scientific-practical and visual aid for physicians and methodologists in physical therapy] Lechebnaia fizkul'tura pri rasstroistvakh osanki i skeliezakh u shkol'nikov; uchebno-prakticheskie i nagliadnye posobie dlia vrachei i metodistov po lecheniu fizkul'ture. Moskva, Medgiz, 1955. 198 p. (MLRA 9:4)

(PHYSICAL THERAPY) (SPINE-ABNORMALITIES AND DEFORMITIES)

RUBTSOV, A.D.

Method of physical culture therapy in scoliosis and incorrect posture. Vop.kur.fizioter. i lech.fiz.kul't no.3:79 J1-S '55.
(EXERCISE THERAPY) (MLR 8:8)
(SPINE ABNORMALITIES AND DEFIRNITIES)

POBISOVA, A.K.

Quality of the materials for the calculation of coal reserves
in the Donets Basin. Mat. GKZ no. 3334-47 163

SOV/1520

RUBTSOVA, G.K.

PHASE I BOOK EXPLOITATION

5(1)

USSR. Gosudarstvennyy nauchno-tekhnicheskiy komitet
Avtomatizatsiya khimicheskikh i koksokhimicheskogo proizvodstv; sbornik statey
(Automation of the Chemical and By-product Coking Industries) Moscow,
Metallurgizdat, 1958, 377 p. 4,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Institut nauchnoy i tekhnicheskoy informatsii.

Eds.: N.Ya. Fest, N.N. Yelshin, and Yu.N. Gerulyaytis; Ed. of Publishing House: M.R. Lanovskaya; Tech. Ed.: M.P. Shvetsov.

PURPOSE: This book is intended for industrial engineers and technologists interested in the state of industrial automation and may be especially useful to organizations concerned with the multifarious automation problems of the chemical industry.

COVERAGE: This collection was compiled to fulfill to some degree the need for a readily accessible information source on the latest developments in the automation of industrial processes, both foreign and domestic, and to give supplementary information on the automation state of several chemical, metallurgical, petroleum Card 1/4

Process for the

Soda Industry

22

68

86

108

Automation of the Chemical (Cont.)

SOV/1520

Kremlevskiy, P.P. Automation of the Hydrolysis and Sulfite-Alcohol Industries	131
Yelshin, N.N., and B.A. Filimonov. Automation of the Synthetic Rubber and Synthetic Alcohol Industries	147
Skachkov, A.S. Automation of the Tire Industry	174
Berkman, B.Ye., and Yu. N. Gerulaytis. Automation of the Industrial Production of Aniline Dye	203
Sherman, M.Ya. Automation of the By-product Coking Industry	222
Smakov, M.M. Special Instruments and Automation Methods Employed in Chemical Production in the Soviet Union	249
Belozerskiy, S.S., and Sh. L. Sokolin. Instruments and Automation Methods Employed in the Petroleum Industry of the Soviet Union	298

Card 3/4

Automation of the Chemical (Cont.)

SOV/1520

Nesmelov, S.V., A.B. Bakutkin, and A.A. Popov. Automation of the
1 Petroleum Refining and Petroleum-Chemical Industries

354

AVAILABLE: Library of Congress

TM/gmp
5-21-59

Card 4/4

5(1)

SOV/112-59-3-5621

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 3, p 193 (USSR)

AUTHOR: Rubtsova, G. K.

TITLE: Automation of Production of Weak Nitric Acid and Ammonium Nitrate
(Avtomatizatsiya proizvodstv slaboy azotnoy kisloty i ammiachnoy selitry)

PERIODICAL: V sb. : Avtomatiz khim. i koksohim. proiz-v. m., Metallurgizdat,
1958, pp 52-67

ABSTRACT: Schemes are described of automatic regulation of production of weak nitric acid under atmospheric pressure and under 35 atm, as well as the process of production of grained ammonium nitrate. A short review of automatic schemes for these processes used abroad is presented.

Eight illustrations. Bibliography: 13 items.

Card 1/1

RUBTSOVA, G.K.

Automation of weak nitric acid production. Khim.nauka i prom.
no.6:697-698 '56. (MIRA 10:3)
(Nitric acid) (Automatic control)

NIKOL'SKIY, A.V., doc. med. nauk; BUDAK, A.V., doc. med. nauk;
KLEINOVA, G.V.

Excretion of silicon dioxide and buffer properties of the urine.
Dokl. Akad. Nauk SSSR 234:287-290 '64 (MIRA 18:1)

1. Restavetskiy meditsinskiy institut.

NIKOL'SKIY, V.V.; RUBTSOVA, G.V.

Effect of X-irradiation on the formation of pancreatic enzymes.
Vop.med.khim. 6 no.4:365-368 J1-Ag '60. (MIRA 14:3)

1. Chair of Biochemistry and Chair of Radiology, Rostov Medical
Institute. (PANCREAS—SECRECTIONS) (X RAYS—PHYSIOLOGICAL EFFECT)

RUBTSOVA, I. D.

RUBTSOVA, I. D.: "The problem of the development of the mycorrhiza of certain cereal crops under the conditions of Voronezh Oblast." Voronezh State Pedagogical Inst. Chair of Botany. Voronezh, 1956. (Dissertation for the Degree of Candidate in Biological Sciences).

Source: Knizhnaya letopis' No. 28 1956 Moscow

RUBTSOVA, I.D., kand. biolog. nauk

Mycotrophy of gramineous plants. Agrobiologiya no.6:932-934
N-D '63. (MIRA 17:2)

1. Pedagogicheskiy institut, Tambov.

RUBTSOVA, I.D., kand.biologicheskikh nauk

Development of the mycorhiza of sorghum. Agrobiologiya no.5:759-
761 S-O '60. (MIRA 13:10)

1. Voronezhskiy gosudarstvennyy pedagogicheskiy institut.
(Mycorhiza) (Sorghum)

L 8868-66 EWT(m)/EWP(j) WW/RM
ACC NR: AP5025955 44.5 S6

L 8868-00
ACC NR: AP5025955

SOURCE CODE:

L 8868-66
ACC NR: AP5025955
AUTHOR: Shner, S. M.; Rubtsova, I. K.; Gelter, Ye. L.
Institute of Plastics (Nauch)

ACC NR: AP5023755
AUTHOR: Shner, S. M.; Rubtsova, I. K.; Gerasimova, L. I.
ORG: Scientific Research Institute of Plastics (Nauchno-
issledovatel'skiy institut plasticheskikh mass)
SUBJ: Study of conversions of di-(beta-chloroet-
yl) malonate to homopolycondensation products of chloroacetic acid

AUTHOR: Shklyar, V. I.
 ORG: Scientific Research Institute of the USSR Academy of Sciences
 issledovatel'skiy institut plasticheskikh mass)
 TITLE: Investigation of conversions of di-(beta-chloroethyl) phosphite
 and its derivatives. Report No. 1. Homopolycondensation of di-(beta-
 chloroethyl) phosphite and di-(beta-chloroethyl) chlorophosphate
 Zhurnal'nyye soyedineniya, v. 7, no. 10, 1965,
 khimicheskaya fizika, 1965, no. 10, p. 1811-1814, 1815-1816, 1817-1818, 1819-1820, 1821-1822, 1823-1824, 1825-1826, 1827-1828, 1829-1830, 1831-1832, 1833-1834, 1835-1836, 1837-1838, 1839-1840, 1841-1842, 1843-1844, 1845-1846, 1847-1848, 1849-1850, 1851-1852, 1853-1854, 1855-1856, 1857-1858, 1859-1860, 1861-1862, 1863-1864, 1865-1866, 1867-1868, 1869-1870, 1871-1872, 1873-1874, 1875-1876, 1877-1878, 1879-1880, 1881-1882, 1883-1884, 1885-1886, 1887-1888, 1889-1890, 1891-1892, 1893-1894, 1895-1896, 1897-1898, 1899-1900, 1901-1902, 1903-1904, 1905-1906, 1907-1908, 1909-1910, 1911-1912, 1913-1914, 1915-1916, 1917-1918, 1919-1920, 1921-1922, 1923-1924, 1925-1926, 1927-1928, 1929-1930, 1931-1932, 1933-1934, 1935-1936, 1937-1938, 1939-1940, 1941-1942, 1943-1944, 1945-1946, 1947-1948, 1949-1950, 1951-1952, 1953-1954, 1955-1956, 1957-1958, 1959-1960, 1961-1962, 1963-1964, 1965-1966, 1967-1968, 1969-1970, 1971-1972, 1973-1974, 1975-1976, 1977-1978, 1979-1980, 1981-1982, 1983-1984, 1985-1986, 1987-1988, 1989-1990, 1991-1992, 1993-1994, 1995-1996, 1997-1998, 1999-2000, 2001-2002, 2003-2004, 2005-2006, 2007-2008, 2009-2010, 2011-2012, 2013-2014, 2015-2016, 2017-2018, 2019-2020, 2021-2022, 2023-2024, 2025-2026, 2027-2028, 2029-2030, 2031-2032, 2033-2034, 2035-2036, 2037-2038, 2039-2040, 2041-2042, 2043-2044, 2045-2046, 2047-2048, 2049-2050, 2051-2052, 2053-2054, 2055-2056, 2057-2058, 2059-2060, 2061-2062, 2063-2064, 2065-2066, 2067-2068, 2069-2070, 2071-2072, 2073-2074, 2075-2076, 2077-2078, 2079-2080, 2081-2082, 2083-2084, 2085-2086, 2087-2088, 2089-2090, 2091-2092, 2093-2094, 2095-2096, 2097-2098, 2099-2100, 2101-2102, 2103-2104, 2105-2106, 2107-2108, 2109-2110, 2111-2112, 2113-2114, 2115-2116, 2117-2118, 2119-2120, 2121-2122, 2123-2124, 2125-2126, 2127-2128, 2129-2130, 2131-2132, 2133-2134, 2135-2136, 2137-2138, 2139-2140, 2141-2142, 2143-2144, 2145-2146, 2147-2148, 2149-2150, 2151-2152, 2153-2154, 2155-2156, 2157-2158, 2159-2160, 2161-2162, 2163-2164, 2165-2166, 2167-2168, 2169-2170, 2171-2172, 2173-2174, 2175-2176, 2177-2178, 2179-2180, 2181-2182, 2183-2184, 2185-2186, 2187-2188, 2189-2190, 2191-2192, 2193-2194, 2195-2196, 2197-2198, 2199-2200, 2201-2202, 2203-2204, 2205-2206, 2207-2208, 2209-2210, 2211-2212, 2213-2214, 2215-2216, 2217-2218, 2219-2220, 2221-2222, 2223-2224, 2225-2226, 2227-2228, 2229-2230, 2231-2232, 2233-2234, 2235-2236, 2237-2238, 2239-2240, 2241-2242, 2243-2244, 2245-2246, 2247-2248, 2249-2250, 2251-2252, 2253-2254, 2255-2256, 2257-2258, 2259-2260, 2261-2262, 2263-2264, 2265-2266, 2267-2268, 2269-2270, 2271-2272, 2273-2274, 2275-2276, 2277-2278, 2279-2280, 2281-2282, 2283-2284, 2285-2286, 2287-2288, 2289-2290, 2291-2292, 2293-2294, 2295-2296, 2297-2298, 2299-2300, 2301-2302, 2303-2304, 2305-2306, 2307-2308, 2309-2310, 2311-2312, 2313-2314, 2315-2316, 2317-2318, 2319-2320, 2321-2322, 2323-2324, 2325-2326, 2327-2328, 2329-2330, 2331-2332, 2333-2334, 2335-2336, 2337-2338, 2339-2340, 2341-2342, 2343-2344, 2345-2346, 2347-2348, 2349-2350, 2351-2352, 2353-2354, 2355-2356, 2357-2358, 2359-2360, 2361-2362, 2363-2364, 2365-2366, 2367-2368, 2369-2370, 2371-2372, 2373-2374, 2375-2376, 2377-2378, 2379-2380, 2381-2382, 2383-2384, 2385-2386, 2387-2388, 2389-2390, 2391-2392, 2393-2394, 2395-2396, 2397-2398, 2399-2400, 2401-2402, 2403-2404, 2405-2406, 2407-2408, 2409-2410, 2411-2412, 2413-2414, 2415-2416, 2417-2418, 2419-2420, 2421-2422, 2423-2424, 2425-2426, 2427-2428, 2429-2430, 2431-2432, 2433-2434, 2435-2436, 2437-2438, 2439-2440, 2441-2442, 2443-2444, 2445-2446, 2447-2448, 2449-2450, 2451-2452, 2453-2454, 2455-2456, 2457-2458, 2459-2460, 2461-2462, 2463-2464, 2465-2466, 2467-2468, 2469-2470, 2471-2472, 2473-2474, 2475-2476, 2477-2478, 2479-2480, 2481-2482, 2483-2484, 2485-2486, 2487-2488, 2489-2490, 2491-2492, 2493-2494, 2495-2496, 2497-2498, 2499-2500, 2501-2502, 2503-2504, 2505-2506, 2507-2508, 2509-2510, 2511-2512, 2513-2514, 2515-2516, 2517-2518, 2519-2520, 2521-2522, 2523-2

TITLE: Investigation Report No. 1:
and its derivatives. Report No. 1:
chloroethyl) phosphite and di-(beta-chloroethyl) phosphite
SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 10, 1965,
1684-1688
phosphorus compound, polycondensation, chl
ORGANIC COMPOUND

SOURCE: Vysokomolekulyarnyye soyedineniya, 1684-1688

TOPIC TAGS: organic phosphorus compound, polycondensation, chlorination, polyester plastic, CHLORINATED ORGANIC COMPOUND

15 polycondensation, heretofore not described in the phosphite (A) and of di-(beta-phosphorus-containing

1684-1688

TOPIC TAGS: organic phosphorus compounds, P₂O₅ compounds
tion, polyester plastic⁴⁴ CHLORINATED ORGANIC

ABSTRACT: The homopolycondensation¹⁵ heretofore not described in the literature, of di-(beta-chloroethyl) phosphite (A) and of di-(beta-chloroethyl chlorophosphate (B) was studied. Phosphorus-containing polyesters⁷ were synthesized from A and from B by thermal homopolycondensation upon elimination of dichloroethane. Reaction of A proceeded most smoothly at 205-207° to give a polyester yield of 99.4% in 6-7 hours. B is best reacted at 186-188° for 2.5 hours. Chlorina-

UDC: 678.674

UDC: 678.674

Card 1/2

ACC NR: AP5025955

44, SS

tion of a polyester based on A gave the polymeric chloroanhydride of A.
L. P. Bocharova participated in the experimental work. Orig. art. has:
4 tables and 4 equations.

SUB CODE: OC/ SUBM DATE: 30Oct64/ ORIG REF: 006/ OTH REF: 003

Card 2/2

L 62831-65 EMT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 WW/JAJ/RM
 ACCESSION NR: AP5019045 UR/0286/65/000/012/0075/0075
 678.674 : 678.028.294 36

AUTHOR: Li, P. Z.; Mikhaylova, Z. V.; Bykova, L. V.; Rubtsova, I. K.; Travnikova, L. V. 15

TITLE: A method for hardening unsaturated polyester resins. Class 39, No. 172037 15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 75

TOPIC TAGS: plastic, resin, polyester resin, thermal stability

ABSTRACT: This Author's Certificate introduces a method for hardening unsaturated polyester resins by copolymerization with a cross-linking phosphorus-containing agent in the presence of an oxidation-reduction system at room temperature. The thermal stability and self-stopping properties of these polyesters are improved by using di(methacrylethyl)methylphosphinate as the phosphorus-containing cross-linking agent.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass (Scientific

Card 1/2

L 62831-65

ACCESSION NR: AP5019045

Research Institute of Plastics)

SUBMITTED: 31Aug64

ENCL: 00

SUB CODE: MT

NO REF SOV: 000

OTHER: 000

282
Card 2/2

L 20376-66 EWT(m)/EWP(j)/T/ETC(m)-6 WW/RM

ACC NR: AP6006542

(A)

SOURCE CODE: UR/0191/65/000/011/0027/0028

AUTHORS: Kirilovich, V. I.; Rubtsova, I. K.

ORG: none

TITLE: Synthesis of unsaturated esters of polypentamethylenephosphoric acid

SOURCE: Plasticheskiye massy, no. 11, 1965, 27-28

TOPIC TAGS: organophosphorus compound, polyester, polymer, fire resistant material

ABSTRACT: It was the object of the present investigation to extend earlier investigations carried out in the area of synthesis of fireproof plastics by V. I. Kirilovich, I. K. Rubtsova, and Ye. L. Gelter (Plast. massy No. 7, 20, 1963). A number of unsaturated esters of polypentamethylenephosphoric acid were synthesized by the interaction of polypentamethylenechlorophosphate with allyl and furfuryl alcohol, 5-methyl-2-isopropylhexene-3-ol-1 and 2-ol-1, and 2-ethylhexene-3-ol-1 and 2-ethylhexene-2-ol-monoethyleneglycol methylmethacrylate. The extent of reaction, relative viscosity, and dimethylformamide and the phosphorus content of the synthesized esters was determined. The experimental results

Card 1/2

UDC: 678.744.1:661.634

L 20376-66

ACC NR: AP6006542

are tabulated. It is concluded that all the synthesized esters are capable of copolymerization and may be recommended as fireproofing additives to different polymers. The authors thank V. I. Lyubomilov for the gift of several alkyl-hexanols. Orig. art. has: 1 table.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: C05

Card 2/2 vmb

L 00401-07 EWT(m)/EWP(j) IJP(c) RM

ACC NR: AP6031747

(N)

SOURCE CODE: UR/0191/66/000/007/0019/0021

AUTHOR: Kirilovich, V. I.; Rubtsova, I. K.

ORG: none

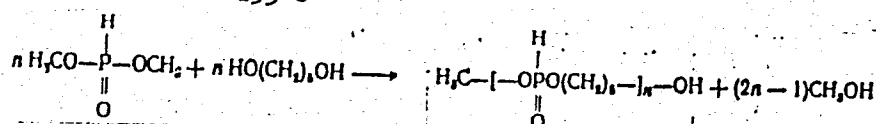
36
B

TITLE: Study of the polytransesterification of dimethyl phosphite¹ with 1,5-pentanedio-
ol 1

SOURCE: Plasticheskiye massy, no. 7, 1966, 19-21

TOPIC TAGS: polyester plastic, phosphite, sodium, catalytic polymerization

ABSTRACT: Various factors affecting the polytransesterification of dimethyl phosphite (DMP) with 1,5-pentanediol at 135°C



and the kinetics of this reaction were studied. The reaction goes to 80% completion in the presence of 0.35% (of DMP) sodium metal. Prolonged heating at 185°C/1 mm Hg causes the specific viscosity of the polyester to increase. The average molecular weight of the polypentamethylene phosphite obtained was 6500. Independently of the catalyst employed, the reaction is second order. With rising temperature, the rate

Card 1/2

UDC: 678.85.01

L 08401-67

ACC NR: AP6031747

constant increases in the presence of metallic sodium catalyst, the temperature coefficient remaining unaffected. This increase obeys the Arrhenius equation, from which the activation energy was determined. Sodium metal is the best catalyst; the reaction can be carried out at lower temperatures than with other catalysts (magnesium chloride, potassium acetate, zinc acetate, phosphoric acid), so that DMP is not entrained by methanol, and the yield is 15-20% higher. Orig. art. has: 5 figures, 3 tables and 1 formula.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 003

Card 2/2

L 20806-66 EWP(j)/EWI(m)/ETC(m)-6/T IJP(c) RM/WW

ACC NR: AP6005945 (A) SOURCE CODE: UR/0191/66/000/002/0010/0011

AUTHORS: Kirilovich, V. I.; Rubtsova, I. K.; Pokrovskiy, L. I.; Khinich, R. V.;
Fedorov, A. A.

ORG: none

TITLE: Synthesis of phosphor-containing polyesters and their application in
preparation of fireproof polyurethane foams 57 B

SOURCE: Plasticheskiye massy, no. 2, 1966, 10-11

TOPIC TAGS: polyester plastic, polyurethane, foam plastic, fire resistant
material, phosphorous acid, esterification

ABSTRACT: Polytransesterification of dimethylphosphorous acid (I) with polyols
(pentaerythritol, trimethylolpropane, trimethylolethane) or of mixed polyols
and diols in various ratios, has been investigated. This work is a continuation
of a study of polyphosphite synthesis by V. I. Kirilovich, I. K. Rubtsova, and
Ye. L. Gefter (Plast. massy, No. 7, 20, 1963), and was undertaken to test the
suitability of polyesters in imparting fire-resistant properties to polyurethane
foams. Reaction of the mixture of diols and polyols with I yields polyesters

Card 1/2

UDC: 678.664-496:678.029.65

L 20806-66

ACC NR: AP6005945

having viscosities similar to those of the polyurethane foams, i.e., $\eta^{250} \leq 1000$ poise. The optimal ratio of viscosity and free hydroxyl groups in polyphosphites occurs with pentaerythritol:hexane-diol = 0.3:0.7 and pentaerythritol:diethylene glycol = 0.2:0.8. Of all polyphosphites obtained with individual polyols, poly-trimethylolpropane phosphite had the most acceptable viscosity. The use of metallic sodium as a catalyst permitted lowering of the initial reaction temperature, thus preventing excessive rise of the viscosity of the product. The resulting phosphor-containing polyurethane foams were self-extinguishing and thermally stable. Orig. art. has: 3 tables. 0

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 008

Card 2/2 *h*

ACC NR: AP6023433

SOURCE CODE: UR/0190/56/003/007/1279/1232

AUTHOR: Shner, S. M.; Rubtsova, I. K.; Geftter, Ye. L.

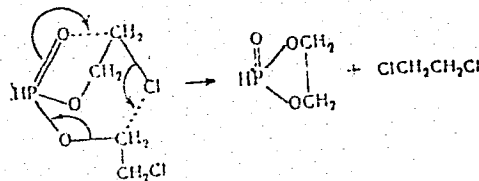
ORG: Scientific Research Institute of Plastics (Nauchno-issledovatel'skiy institut plasticheskikh mass)

TITLE: Kinetics and mechanism of homopolycondensation of di- β , β' -chloroethylphosphorous acid

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 7, 1966, 1279-1282

TOPIC TAGS: polycondensation, phosphorous acid, organic phosphorus compound

ABSTRACT: The kinetics of homopolycondensation of di- β , β' -chloroethylphosphorous acid were studied at 195, 200, 205, and 210°C without a solvent in a stream of dry nitrogen, and the 1,2-dichloroethane evolved (from which the extent of the reaction was calculated) was driven off continuously. The reaction was shown to be first order. Its initial stage consists of an intramolecular conversion, which proceeds via cyclic intermediates and involves a circular electron transfer in accordance with the following hypothetical mechanism:



UDC: 541.54+578.86

Card 1/2

1. 4. 2. 1. 6

ACC NR: AF6023433

The rate constants of the reaction were calculated, and its activation energy was found to be 15.4 ± 2.0 kcal/mole. The products, in addition to 1,2-dichloroethane, were polyester chains formed by the opening of the unstable cyclic intermediates. Orig. art. has: 3 figures.

SUB CODE: 07/ SUBM DATE: 29Jun65/ ORIG REF: 006/ OTH REF: 002

Card

2/2

L 41335-66 EWT(m)/T/EWP(j) IJP(c) WW/RM

ACC NR: AP6025620

SOURCE CODE: UR/0413/66/000/013/0076/0076 119

AUTHORS: Kirilovich, V. I.; Shner, S. M.; Rubtsova, I. K.; Rabkina, A. E.; Tikhonova, M. A.

ORG: none

TITLE: A method for hardening epoxy resins. Class 39, No. 183379¹² announced by Scientific Research Institute of Plastics (Nauchno-issledovatel'skiy institut plasticheskikh mass) /

SOURCE: Izobretoniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 76

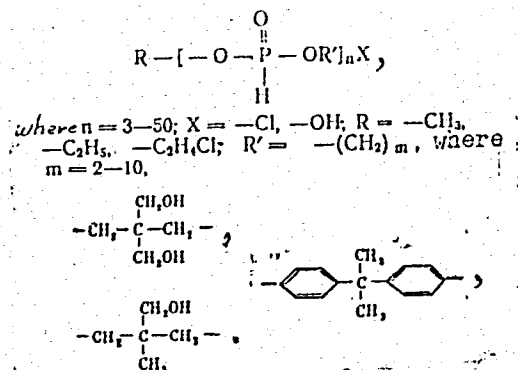
TOPIC TAGS: epoxy plastic, ~~curing agent~~, polyester plastic, fire resistant material, organic phosphorus compound, *resin, hardening*

ABSTRACT: This Author Certificate presents a method for hardening epoxy resins by phosphorus-containing hardeners. To increase the fire resistance of the polymers, phosphorus-containing polyesters with a reactive hydrogen atom at the phosphorus atom are used as hardeners. These polyesters have the general formula,

Card 1/2

UDC: 678.643.028.294:678.85

1. 41345-56
ACC NR: AP6025620



A formula for determining the amount of hardener needed is given. Orig art.
has: 2 formulas.

[04]

SUB CODE: 11/ SUBM DATE: 08Apr65/ ATD PRESS: 5055

Card 2/2 11b

ACC NR: AP6029915

(A)

SOURCE CODE: UR/0413/66/000/015/0088/0088

INVENTORS: Gorbunov, V. N.; Yashina, V. Z.; Rubtsova, I. K.

ORG: none

TITLE: Method for obtaining amino-formaldehyde resins. ¹ Class 39, No. 184439 ⁵
[announced by Scientific Research Institute of Plastics (Nauchno-issledovatel'skiy
institut plasticheskikh mass)]

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 88

TOPIC TAGS: amino plastic, formaldehyde, condensation polymerization, polymeriza-
tion initiator

ABSTRACT: This Author Certificate presents a method for obtaining amino-formalde-
hyde resins by condensing urea or melamine with formaldehyde in an acid or neutral
medium. To improve the physico-mechanical properties, the condensation is carried
out under pressure and in the presence of a peroxy-free-radical type initiator.
The condensation may also be carried out in the presence of an unsaturated com-
pound, e.g., methyldimethacryloxyethylphosphinate.

SUB CODE: 11,07 SUBM DATE: 23Jun65
Card 1/1

UDC: 678.652.'737'21'41

RUBTSOVA, I.K.; GEFTER, Ye.L.; YULDASHEV, A.; MOSHKIN, P.A.

Production of some hardening phosphorus-containing polyesters by
the polycondensation reaction. Plast.massy no.2:22-24 '61.

(MIRA 14:2)

(Esters)

RUZSOVA, T.K.; KIRILOVICH, V.Y.

Synthesis of the ethers of *L*-hydroxy *α*-furyl...
Elast. massy no. 4:59-60 '07. (USA 1976)

L 62829-65 EMT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 JAJ/TM
ACCESSION NR: AP5019044 UR/0286/65/000/012/0074/0075
678.85.6

AUTHOR: Rubtsova, I. K.; Kirilovich, V. I. 30
B

TITLE: A method for producing phosphorus-containing polymers. Class 39,
No. 172036

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no: 12, 1965, 74-75

TOPIC TAGS: polymer, polycondensation

ABSTRACT: This Author's Certificate introduces a method for producing phosphorus-containing polymers. A dialkyl ester of α -hydroxy- α -phosphoric acid is subjected to polycondensation in the presence of acid catalysts.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass (Scientific Research Institute of Plastics)

SUBMITTED: 17Mar64 ENCL: 00 SUB CODE: MT
NO REF SOV: 000 OTHER: 000

Card 1/1

L 62831-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 WW/JAJ/RM
 ACCESSION NR: AP5019045 UR/0286/65/000/012/0075/0075
 678.674 : 678.028.294 36
 AUTHOR: Li, P. Z.; Mikhaylova, Z. V.; Bykova, L. V.; Rubtsova, I. K.; Travnikova, L. V. 15
 TITLE: A method for hardening unsaturated polyester resins. Class 39, No. 172037 5
 SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 75
 TOPIC TAGS: plastic, resin, polyester resin, thermal stability
 ABSTRACT: This Author's Certificate introduces a method for hardening unsaturated polyester resins by copolymerization with a cross-linking phosphorus-containing agent in the presence of an oxidation-reduction system at room temperature. The thermal stability and self-stopping properties of these polyesters are improved by using di(methacrylethyl)methylphosphinate as the phosphorus-containing cross-linking agent.
 ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass (Scientific
 Card 1/2

L 62831-65

ACCESSION NR: AP5019045

Research Institute of Plastics)

SUBMITTED: 31Aug64

ENCL: 00

SUB CODE: MT

NO REF SOV: 000

OTHER: 000

282
Card 2/2

A	L 11518-66	· EWT(m)/EWP(j)	WW/RM
ACC NR:	AP6001869	SOURCE CODE: UR/0190/65/007/012/2142/2145	
AUTHORS: Shner, S. M.; Rubtsova, I. K.; Gefter, Ye. L.			
ORG: Scientific Research Institute for Plastics (Nauchno-issledovatel'skiy institut plasticheskikh mass)			
TITLE: Synthesis and homopolycondensation of di- β , β' -chloroethyl ester of oxymethylphosphonic acid. 2nd communication in the series, Investigation of transformation of di- β , β' - chloroethylphosphine acid and its derivatives			
SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 12, 1965, 2142-2145			
TOPIC TAGS: polymer, polymerization , polymerization rate , polymerization kinetics , polymerization degree , polyester, ether, phosphinic acid, phosphonic acid, ester, polycondensation, organic synthetic process			
ABSTRACT: Further work is reported on the properties and transformations of di- β - β' -chloromethylphosphinic acid, previously reported by S. M. Shner, I. K. Rubtsova, and Ye. L. Gefter (Vysokomolek. soyed., 7, 1684, 1965). The synthesis of di- β - β' -chloroethyl ester of oxymethyl phosphinic acid was carried out according to the general method of V. S. Abramov (Dokl. AN SSSR, 73, 487, 1950) by the reaction of the acid with formaldehyde. The thermal homopolycondensation of the synthesized ester was studied. The homopolycondensation yielded a phosphorus-containing polyester and a low-molecular fraction consisting of dichloroethane, ethylenechlorohydrine, and di- β , β' -chloroethyl ether. The effect of temperature on the yield of polyester			
Card 1/2		UDC: 541.64+678.86	

L 11518-66

ACC NR: AP6001869

3

was determined (see Fig. 1). The effects of temperature and of the heating on

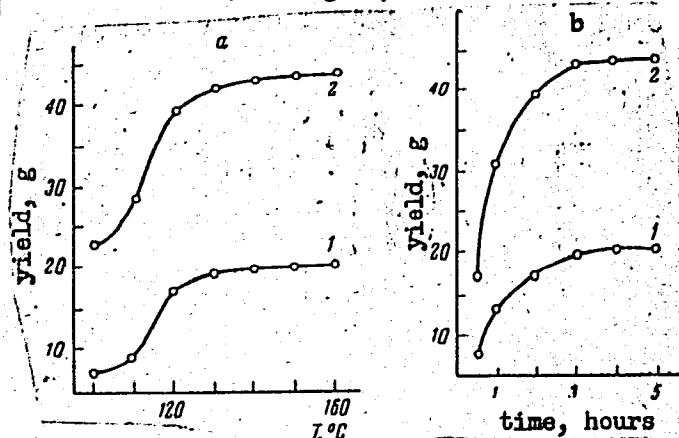


Fig. 1. Dependence of the yield of the low-molecular fraction (1) and polyester (2): a - on the temperature during homopolycondensation of 65 g of ester for 3 hours at 20 mm Hg; b - on the duration of reaction during homopolycondensation of 65 g of ester at 140°C and 20 mm Hg.

the viscosity of the polyester were studied, and the results tabulated. A reaction mechanism for the homopolycondensation of the ester is proposed. L. P. Bocharova participated in the experimental work. Orig. art. has: 1 table, 1 graph, and 3 equations.

SUB CODE: 0711/ SUBM DATE: 27Jan65/ ORIG REF: 006/

OTH REF: 003

Card 2/2C

ZARUBIN, G.G.; RUBTSOVA, I.K.; SMIRNOV, M.I.; PERTSOV, L.D.; DOLGOV, F.F.;
KOKOREV, V.V.; ZHILINA, R.D.

Using alkyl aryl phosphates for plasticizing polyvinyl chloride.
Plast.massy no.5:7-10 '63. (MIRA 16:6)
(Vinyl compound polymers) (Phosphoric acid) (Plasticizers)

KIRILOVICH, V.I.; RUBTSOVA, I.K.; GEFTER, Ye.L.

Production of phosphorus-containing polyesters by polyre-esterification
of dialkyl phosphites with hydroxyl-containing compounds. Plast.-
massy no.7:20-21 '63. (MIRA 16:8)
(Phosphorus organic compounds) (Esterification) (Hydroxy compounds)

MOSHKIN, P.A., GEFTER, YE.L., RUBTSOVA, I.E.

Research in the field of the synthesis and use of certain organophosphorus compounds in the plastics industry.

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and application of organophosphorus compounds) A. YE. ARSHIZOV, Ed.
Publ. by Kazan Affil. Acad. Sci. USSR, Moscow 1962, 632 pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

YULDAS'EV, A.; RUBTSOVA, I.K.; MOSHKIN, P.A.

Copolymerization of the di- β , β -chloroethyl ester of vinylphosphinic
acid with certain unsaturated compounds. Plast.massy no.8:10-11
'62. (MIRA 15:7)

(Polymerization)

MOSHKIN, P.A.; RUBTSOVA, I.K.; ZHILINA, R.D.; MAKROKHIN, B.G.; ITENBERG,
Sh.M.

Alcoholysis of some $\beta\beta'$ -cyanoethyl esters and study of the
products obtained. Plast.massy no.10:60-61 '60. (MIRA 13:12)
(Plasticizers) (Acrylonitrile) (Alcoholysis)

RUDISOVA, I.K.; GEFTER, Ye.L.; YULDASHEV, A.; MOSHKIN, P.A.

Preparation of hardening phosphorus-containing polyester by
polyreesterification. Plat.massy no.3:13-14 '61. (MIRA 14.3)
— (Plastics) (Esters)

BORUCHOVA, Ye.N.; KUISANNO, A. A.; MOISEL, P.A.; RUBTSOVA, I.K.

Synthesis of algal lectins of methyl- and diphenylphosphorous
c. c. Pinst. massy no. 9. 9. 9. (MIRA 17:10)

89918

S/191/61/000/002/005/012
B118/B203

158114

AUTHORS:

Rubtsova, I. K., Gefter, Ye. L., Yuldashev, A., Moshkin, P.A.

TITLE:

Synthesis of some hardening phosphorus-containing polyesters by polycondensation

PERIODICAL: Plasticheskiye massy, no. 2, 1961, 22 - 24

TEXT: Phosphorus-containing polyesters with otherwise good properties also show essential negative features (low melting points, inability of hardening), which circumstance induced the authors to develop a method of synthesizing phosphorus-containing hardening polyesters. For this purpose, they synthesized various normal phosphorus-containing polyesters with an unsaturated bond in the side chain which could subsequently be hardened by reaction of their double bonds. They proceeded from vinyl phosphinic acid dichloride and bivalent phenols, as well as from dichlorohydrin of pentaerythrite. Vinyl phosphinic acid dichloride was synthesized in the following way: 1) by catalytic dehydrochlorination of β -chloro-ethyl phosphinic acid dichloride; 2) by reaction of triethyl-

Card 1/3

relatively low-melting poly-

09918

Synthesis of some hardening

S/191/61/000/002/005/012
B118/B203

esters soluble in many organic solvents were produced. Their content of double bonds determined according to Kaufmann varied between 70 and 80 % of the theory. The polyesters synthesized hardened in the presence of the following polymerization initiators: benzoyl peroxide, hydroperoxide of cumene with admixed cobalt naphthenate, and the very active dinitrile of azo-bis-isobutyric acid (both as accelerators). M.I. Kabachnik and T. Ya. Medved' are mentioned. There are 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc.

X

Card 3/3

20484

S/191/61/000/003/002/015

B124/B203

158114

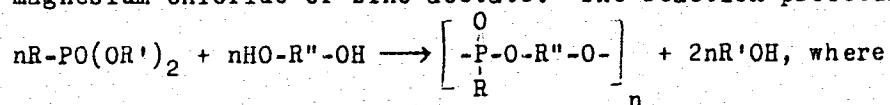
2209

AUTHORS: Rubtsova, I. K., Gefter, Ye. L., Yuldashev, A., Moshkin, P.A.

TITLE: Production of hardenable phosphorus-containing polyesters through polyesterification

PERIODICAL: Plasticheskiye massy, no. 3, 1961, 13-14

TEXT: A previous publication (Ref. 1: Plast.massy, no. 2 (1961)) described the production of some hardenable phosphorus-containing polyesters through polycondensation. The authors studied the possibility of obtaining hardenable organophosphorus polyester resins through polyesterification of diphenyl- and diethyl ester of vinyl phosphonic acid with the aid of some dihydroxyl compounds. The reaction was conducted in an inert gas atmosphere with heating up to 250°C in the presence of magnesium chloride or zinc acetate. The reaction proceeds as follows:



Card 1/3


20484




S/191/61/000/003/002/015



B124/B203

Production of hardenable...

R : CH₂=CH-

R' : C₂H₅-;  -

R'' :  -;  -;  -

--O-(CH₂)₄-O-- ; -C₂H₄- . The resulting polyesters were incom-
bustible (the test was made in the flame of an alcohol burner), their
melting point lay between 75 and 100°C, they were soluble in dimethyl
formamide, cyclohexanone, dioxane, unsoluble in alcohols (methyl, ethyl,
butyl alcohol), chloroform, and benzene. The double bonds in the poly-
esters synthesized were determined according to Kaufmann; their content
was between 70 and 80% of the theoretical amount. The reaction was
accompanied by violent decomposition in the interaction of diethyl ester
of vinyl phosphonic acid with some dihydroxyl compounds, as well as in
that of diphenyl ester of vinyl phosphonic acid with ethylene glycol. The
characteristics of the initial substances (diethyl ester of vinyl

Card 2/3


20484

S/191/61/000/003/002/015

B124/B203

Production of hardenable...

phosphonic acid, diphenyl ester of vinyl phosphonic acid, 1,4-di-(p-hydroxyphenoxy)-butane) are given, and the polyesterification of diphenyl ester of vinyl phosphonic acid with hydroquinone, diphenylol propane, resorcin, 1,4-di-(p-hydroxyphenoxy)-butane, as well as of diethyl ester of vinyl phosphonic acid with hydroquinone and ethylene glycol is described. The authors thank V. I. Lutkova and B. B. Berezina for producing 1,4-di-(p-hydroxyphenoxy)-butane. There are 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: H. W. Coover, M. A. McCall, US Patent 2,682,522; C.A.;48, 11112 (1954).



Card 3/3

ХУДТ 200 II, I, A,

✓ Esters of monoallyl ethylene glycol and carboxylic acids.
N. Kaitolev and I. K. Kuhlsova. Khim. Prom. 1953, 62, 1.
 No. 4, 8-10; Referat: Zhur., Khim. 1955, No. 414.—A
 study of the effect of pressure, temp., ratio of reagents, and catalyst on the esterification of carboxylic acids with $\text{CH}_2=\text{CHCH}_2\text{OCH}_2\text{CH}_2\text{OH}$ (I) was made. $p\text{-MeC}_6\text{H}_4\text{SO}_3\text{H}$, PhNMe_2 , KOH , and NaOH were used as catalysts. Heating $\text{CH}_2=\text{CHCH}_2\text{OCH}_2\text{CH}_2\text{OH}$, ethylene oxide, and the catalyst in a steel autoclave 5 hrs. gave I, b_p 58-60°, n_D^{20} 1.4300, d_4^{20} 0.9525. Yields of 70.7-77.7% were obtained at a molar ratio of ethylene oxide-allyl alc. 1:2.45, a temp. of 120-30°, and in the presence of 5% KOH or NaOH . Esters (II) of I were obtained by heating 6-8 hrs. at 138-40° equimolar quantities of I with the corresponding acid, 5% $p\text{-MeC}_6\text{H}_4\text{SO}_3\text{H}$, and 0.5% CuCl , cooling, and washing with 5% soda soln., then with water. Thus were prepd. the following II (acid used and b_p , n_D^{20} , and d_4^{20} of II given) (dibasic acids gave diesters): maleic, b_p 157-60°, 1.4710, 1.1015; malonic, b_p 145-40°, 1.4533, 1.0902; succinic, b_p 150-8°, 1.4560, 1.0773; adipic, b_p 180-1°, 1.4506, 1.0531; phthalic, b_p 190-2°, 1.5053, 1.1279; benzoic, b_p 120-2°, 1.5073, 1.0737; acetic, b_p 81-9°, 1.4290, 1.0196; levulinic, b_p 118-20°, 1.4486, 1.0505. These esters were polymerized in the presence of 5% benzoyl peroxide, at 60-90° for 120 hrs. Only di(allylethylene glycol)maleinate gave a solid polymer. M. Hosen

①

PM

AUTHORS: Kotrelev, V. N. Rubtsova, I. K. 79-28-3-45/61

TITLE: On the Reaction of Allyloxyethanol With Monovinylethers (O
vzaimodeystvii alliloksietanola s prostymi vinilovymi efirami)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28 Nr 3, pp. 770-771
(USSR)

ABSTRACT: By many single syntheses and investigations Shostakovskiy and
his collaborators showed that acetals can be obtained by the
reaction of monovinylethers with compounds containing the
hydroxylgroup (reference 1). The synthesis of the acetals which
contain in their composition an unsaturated radical are de-
scribed in detail (reference 2). The present investigation was
conducted with the aim of synthesizing the acetals by means of
allyloxyethanol and of investigating their capability for a
common polymerization. The synthesis of the mentioned acetals
was carried out from monovinylethers and allyloxyethanol
according to the method of Shostakovskiy (see reaction pro-
cess). It is known that the acetals of allyl alcohol are
neither capable of polymerizing with respect to the radical
nor to the ion mechanism, but that they are easily capable of

Card 1/2

On the Reaction of Allyloxyethanol With Monovinylethers

79-28 3-45/61

forming commonly forming net-like polymers. The authors investigated the capability of the allyloxyethanol acetals for common polymerization with methylmethacrylate at a ratio 10 : 90 in the presence of benzoylperoxide. In all cases solid, colorless and transparent polymers were obtained; some of them were of increased heat resistance (compared with polymethylmethacrylate). The following acetals unknown until now were synthesized and described: ethylallyloxyethylacetal, isopropylethylallyloxyethylacetyl, n-butylallyloxyethylacetyl and diallyloxyethylacetyl of acetaldehyde. There are 1 table and 4 references which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass
(Scientific Research Institute for Plastic Materials)

SUBMITTED: February 14, 1957

Card 2/2

KOTRELEV, V.N.; RUBTSOVA, I.K.

Interaction of allyloxyethanol with vinyl ether. Zhur. ob. khim.
28 no.3:770-771 Mr '58. (MIRA 11:5)

1. Nauchno-issledovatel'skiy institut platicheskikh mass.
(Vinyl ether) (Ethanol)

L 2262-66 EWT(m)/EPF(c)/EWP(j)/T RM

ACCESSION NR: AP5009325

S/0191/65/000/004/0059/0060

AUTHORS: Rubtsova, I. K.; Kirilovich, V. I.

TITLE: Synthesis of α -oxide- α -furylphosphinic acid esters

SOURCE: Plasticheskiye massy, no. 4, 1965, 59-60

TOPIC TAGS: ester, ether, furylphosphinic acid, polymer, monomer

ABSTRACT: In an effort to expand the results obtained by V. S. Abramov and A. S. Kapustina (ZhOKh, 27, 173, 1957), the authors synthesized and studied α -oxide- α -furylphosphinic acid esters with aliphatic, heterocyclic, and aromatic radicals. The reactions of furfurole with dihexyl-, diheptyl-, dioctyl-, dinonyl-, didecyl-, ditetrahydrofuryl-, and diphenylphosphites were investigated. All the esters (except the crystalline dimethyl ester) were yellow, viscous, nondistillable liquids. Percentage content of hydroxyl groups and iodine numbers were determined in all esters, the first one by the method described by I. P. Losev and O. Ya. Fedotova (Praktikum po khimii vysokopolimernykh soyedineniy, Goskhimizdat, 1962, 93), the second by the method of pyridinesulphatebromide. The experimental procedures used in producing dimethyl- α -oxide- α -furylphosphinate in an atmosphere of sulfur ether, dihexyl- α -oxide- α -furylphosphinate, and ditetrahydro- α -oxide- α -furylphosphinate

Card 1/4

L 2262-66

ACCESSION NR: AP5009325

are presented in detail. Table 1 on the Enclosure shows the characteristics of α -oxide- α -furylphosphinic acid esters. Orig. art. has: 3 formulas and 1 table. 0

ASSOCIATION: none

SUBMITTED: 00

ENCL: 02

SUB CODE: 00

NO REF SOV: 006

OTHER: 001

Card 2/4

L 2262-66

ACCESSION NR: AP5009325

ENCLOSURE: 01

0

Table 1. Characteristics of -oxide- -furylphosphinic acid esters

Ester	Melting Temp., °C	20 n _D	20 d ₄
Dimethyl	62-63	-	-
Dimethyl (obt. in sulfur ether)	62-63	-	-
Di-n-hexyl	-	1.4682	1.0563
Di-n-heptyl	-	1.4688	1.0377
Di-n-octyl	-	1.4686	1.0191
Di-n-nonyl	-	1.4678	1.0031
Di-n-decyl	-	1.4671	0.9919
Ditetrahydrofuryl (very viscous)	-	1.4994	-
Diphenyl (very viscous)	-	1.5685	-

to Enclosure 02

Card 3/4

L 2262-66
ACCESSION NR: AP5009325

ENCLOSURE: 02

MR _D		OH, %		P, %	
determ.	calc.	determ.	calc.	determ.	calc.
-	-	8.11	8.25	14.34	15.04
-	-	7.88	8.25	14.21	15.04
91.0	91.61	4.83	4.91	8.8	8.96
100.14	100.84	4.26	4.54	8.0	8.28
109.5	110.08	4.08	4.22	8.1	7.7
119.08	119.31	3.31	3.97	7.33	7.21
128.08	128.55	3.28	3.71	5.9	6.76
-	-	4.84	4.91	8.2	8.95
-	-	4.90	5.15	8.9	9.38

from Enclosure 01

Card

4/4

87437

S/101/60/000/010/013/017
B004/BC60

15 8109

AUTHORS: Moshkin, P. A., Rubtsova, I. K., Zhilina, R. D.,
Nakrokhin, B. G., Itenberg, Sh. M.

TITLE: Alcoholysis of Some Di- $\beta\beta'$ -Cyanethyl Esters, and
Investigation of Products Obtained

PERIODICAL: Plasticheskiye massy, 1960, No. 10, pp. 60-61

TEXT: Proceeding from acrylonitrile the authors synthesized the following compounds: di-($\beta\beta'$ -cyanethyl)-sulfide; di- $\beta\beta'$ -cyanethyl ether; furthermore, $\beta\beta'$ -cyanethyl ethers of ethylene-, diethylene- and triethylene glycols and butanediols. By alcoholysis by means of 2-ethyl hexanediol one obtains the 2-ethyl hexyl esters of oxadipropionic acid, 2,4-dioxahexane dicarboxylic acid-1,6, 2,6-dioxaoctane dicarboxylic acid-1,8, 2,4,6-trioxaoctane dicarboxylic acid-1,8, 2,4,6,8-tetraoxadecane dicarboxylic acid-1,10, and thioldipropionic acid. [Abstracter's Note: the conditions under which the alcoholysis was performed are not indicated]. These esters were found to be resistant to frost down to -45 - -58°C (determination by L. I. Burinova), and yielded, when mixed

Card 1/2

Alcoholysis of Some Di- $\beta\beta'$ -Cyanethyl Esters,
and Investigation of Products Obtained

87437

S/191/60/000/010/013/017
B004/B060

with polyvinyl chloride resin in a ratio 1 : 1, plastics which satisfied
the technological requirements. There are 3 tables and 4 references:
3 Soviet and 1 US.

Card 2/2